

CASE REPORTS

Primary Cutaneous Anaplastic CD30+ Large Cell Lymphoma

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Abstract. Primary cutaneous anaplastic CD30+ large cell lymphoma (PCALCL) is part of the spectrum of primary cutaneous CD30+ lymphoproliferative disorders together with lymphomatoid papulosis. It affects mainly elderly patients and presents as skin nodules that tend to ulcerate. Histological and immunohistochemical study show the expression of CD30 antigen in more than 75% of neoplastic cells. Currently it is considered a low grade lymphoma with favorable prognosis and good response to treatments such as local radiotherapy, methotrexate or surgery. We report a 93-year-old patient with ulcerated nodules in her right leg. Histological and immunohistochemical study confirmed the diagnosis of PCALCL, of non-B, non-T origin. The patient was treated with local radiotherapy with progressive resolution of skin nodules and absence of relapse at 6 months follow-up.

Key words: primary cutaneous anaplastic CD30+ large cell lymphoma, immunophenotype, radiotherapy.

LINFOMA PRIMARIO CUTÁNEO ANAPLÁSICO DE CÉLULAS GRANDES CD30+

Resumen. El linfoma cutáneo primario anaplásico de células grandes CD30+ (LCPCG) forma parte del espectro de las enfermedades cutáneas primarias linfoproliferativas CD30+, junto a la papulosis linfomatoide. Afecta fundamentalmente a pacientes de edad avanzada, en forma de nódulos cutáneos con tendencia a la ulceración. El estudio histológico e inmunohistoquímico demuestra la expresión del antígeno CD30 en más del 75 % de las células neoplásicas. Actualmente se considera un linfoma de bajo grado de malignidad, con buen pronóstico y buena respuesta a tratamientos como la radioterapia local, el metotrexato o la cirugía. Presentamos un caso en una paciente de 93 años con nódulos ulcerados en la pierna derecha. El estudio histológico e inmunohistoquímico confirmó el diagnóstico de LCPCG CD30+, de origen no T no B. La paciente fue tratada con radioterapia local con resolución paulatina de los nódulos cutáneos y sin mostrar recidiva en los 6 meses de seguimiento.

Palabras clave: linfoma cutáneo primario anaplásico de células grandes CD30+, inmunofenotipo, radioterapia.

Introduction

Primary cutaneous CD30+ anaplastic large cell lymphoma (PCALCL) affects mainly elderly patients, and presents as skin nodules that appear predominantly on the head and limbs.¹ It is considered a low grade lymphoma with favorable prognosis, hence chemotherapy is not initially required.² The key to histological diagnosis is the expression of the CD30 marker in more than 75% of lymphoid tumor cells.³ These tend to be of T-cell origin, while those of B-cell or uncertain origin (non-B non-T-cell) are less common.^{4,5}

We describe a CD30+ case of PCALCL, of non-T- non-B-cell origin, in a 93-year-old patient, which began with nodules in the right leg. Symptoms developed slowly, with ulceration, a lack of spontaneous resolution, and signs of perilesional inflammation accompanying the eruption. The lymphoma responded to treatment with localized radiotherapy.

Case description

The patient was a 93-year-old woman with a history of type 2 diabetes mellitus, megaloblastic anemia due to myelodysplastic syndrome, and peripheral venous insufficiency. Her presenting complaint was the progressive appearance of asymptomatic nodular lesions on the front surface of the right leg with onset 3 months earlier. These were accompanied by neither systemic symptoms nor weight loss.

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Figure 1. Grouped erythematous nodules with superficial ulceration on the front surface of the leg.

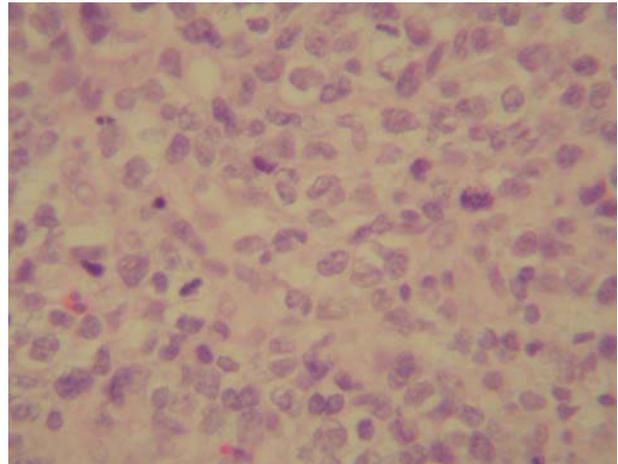


Figure 2. Neoplastic proliferation of large anaplastic lymphocytes (hematoxylin-eosin, $\times 40$).

Examination revealed tumoral lesions on the front aspect of the right leg in the form of nodules with an erythematous surface. On palpation, the nodules were hard and appeared to be infiltrated. They measured between 1.5 cm and 3 cm in diameter, tended towards confluence, and were located on healthy skin (Figure 1). Some were ulcerated and covered by an adherent superficial crust. No local lymph node involvement was observed.

Biopsy revealed a dense and diffuse neoplastic lymphoid proliferation, affecting the skin appendages of the dermis and extending into the subcutaneous cellular tissue, with no epidermotropism. The lesion was made up of large anaplastic lymphocytes, with oval or kidney-shaped vesicular nuclei and prominent nucleoli (Figure 2). Some lymphocytes were multinucleated and frequent mitoses were seen. Furthermore, a peripheral reactive infiltrate was present, made up of mature lymphocytes, histiocytes, and eosinophils. Immunohistochemical study of the tumor cells proved positive for CD30 (Figure 3) and negative for B-cell lymphoma-2 and epithelial membrane antigen. Staining with CD3 and UCHL 1 (T-cell markers) and CD20 and CD79a (B-cell markers) proved negative in tumor cells, but positive in lymphocytes from the peripheral reactive infiltrate. Staining with CD56 also proved negative. A histological diagnosis of primary cutaneous anaplastic CD30+ large cell lymphoma of non-T non-B immunophenotype was made.

A month later, the nodules had increased in the number and size, with most showing surface ulceration. The surface of the affected leg was reddened, hot and edematous. Intense localized pain made walking difficult (Figure 4).

The patient was referred to the hematology service, where the results of a computed tomography (CT) scan of the neck, thorax, abdomen and pelvis, and bone marrow aspiration, and biopsy, ruled out a systemic condition. Local

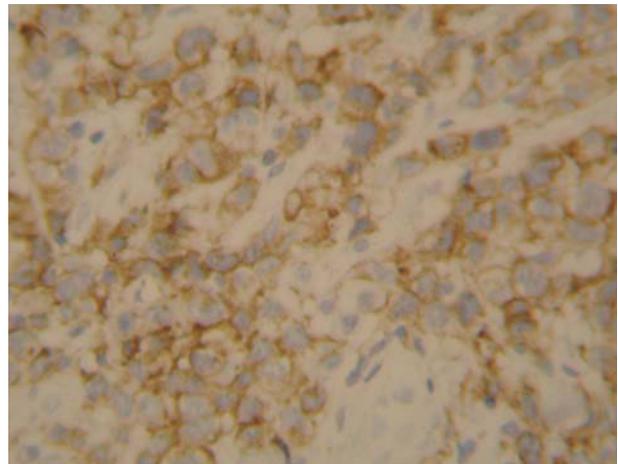


Figure 3. Immunohistochemical tumor staining for CD30 marker (CD30 marker, $\times 40$).



Figure 4. Evolution of cutaneous lesions with extensive perilesional inflammation.

radiotherapy produced a good response, with the cutaneous nodules gradually disappearing. The patient remained free of lesions 6 months after the end of therapy.

Discussion

According to the recently agreed classification for cutaneous lymphomas, approved by the World Health Organization and the European Organization for Research and Treatment of Cancer (WHO-EORTC), PCALCL CD30+ lies within the spectrum of primary cutaneous CD30+ lymphoproliferative disorders, along with lymphomatoid papulosis and lesions classed as borderline.²

PCALCL is characterized in adults by the appearance of nodules, sometimes ulcerated, mainly located on the head or limbs.¹ Only 20% of cases are multifocal.^{1,2} The condition is considered primary when, on presentation, no evidence of systemic disease is found in imaging studies or bone marrow aspiration and biopsy.²

Histological examination reveals a neoplastic proliferation of large lymphocytes in the dermis and subcutaneous cellular tissue. The epidermis is not usually involved, although epidermotropism is occasionally present. The lymphocytes are of anaplastic appearance, with irregular nuclei, prominent nucleoli, abundant cytoplasm and frequent mitosis. The diagnostic key is expression of the CD30 (Ki-1) antigen in more than 75% of tumor cells,³ also, most neoplastic cells are of T-cell immunophenotype, with B, or non-T non-B cells being less common.^{4,5}

PCALCL is currently considered a low-grade lymphoma, where partial or complete spontaneous resolution of the nodules is reported in 25% of cases, although cutaneous recurrence is common.^{6,7}

Aggressive treatments are not necessary, as the condition commonly responds well to local radiotherapy,⁸ low doses of methotrexate,⁹ and imiquimod.¹⁰ Surgery is reserved for isolated lesions,^{11,12} and chemotherapy for patients with multiple cutaneous lesions which are locally aggressive and rapidly growing or for those with extracutaneous involvement^{6,13,14} (as is the case in 10% of patients).

The indolent nature of this tumor is the one of the characteristics that differentiates it from systemic CD30+ anaplastic large cell lymphoma—which almost exclusively occurs in childhood and adolescence and in which cutaneous affection is secondary. Other differences include a more aggressive course, worse prognosis, and the need for chemotherapy. Also, 45% of systemic CD30+ large cell lymphomas present t(2;5) (p23;q35) chromosomal translocation; which is very rare in PCALCL.¹⁶

The survival rate for PCALCL is 90% at 5 years, and this does not change with either lymph node involvement or multifocal lesions.^{1,2}

In the literature, the most aggressive cases of local disease—in terms of number, ulceration, and persistence of the lesions—are reported in transplant patients who have undergone immunosuppressor treatment.^{6,17,18} These patients frequently experience localized recurrence, a lack of response to conservative treatments, and a need for chemotherapy.

Our patient presented nodules on the right leg, with intense ulceration, the absence of spontaneous resolution, and an increase in number of lesions following initial diagnosis. This was accompanied by intense inflammation in the affected leg, partly related to peripheral venous insufficiency. In addition, histological examination showed this was a primary cutaneous CD30+ large cell lymphoma, but of a rare non-T non-B immunophenotype.

Conflicts of interest

The authors declare no conflicts of interest

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